

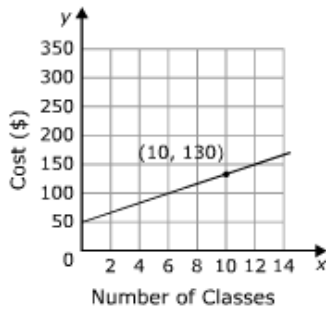
Objective 62

Compare a linear function represented algebraically to a linear function represented in a graph.

PROBLEM

1 OF 2

A sports club offers yoga classes. The total amount a customer spends on individual classes, C , is modeled by the function $C = \$13n$. In the function, n is the total number of classes taken. The local community center also offers yoga classes. There is a one-time membership fee of \$50 at the community center. Members also pay for each class taken. The total cost of yoga classes at the community center is modeled by the graph.



Which option is less expensive if 10 classes total are taken? If the options cost the same under these conditions, state so.

STEP 1

Determine how to solve the problem.

The problem asks which option is less expensive if 10 classes are taken. Use the equation and graph to determine the cost of 10 classes at each location. Compare the costs.

STEP 2

Use the equation to determine the cost of 10 classes at the sports center.

The total amount a customer spends, C , for n individual classes at the sports club is $C = \$13n$. Substitute 10 for n to determine C .

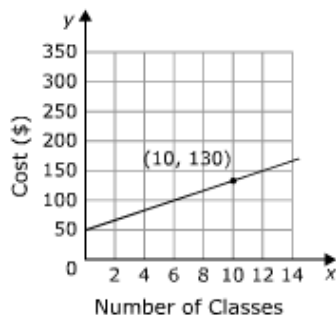
$$C = \$13(10) = \$130$$

2 OF 2

STEP 3

Use the graph to determine the cost of 10 classes at the community center.

The total amount a customer spends for individual classes at the community center is shown in the graph.



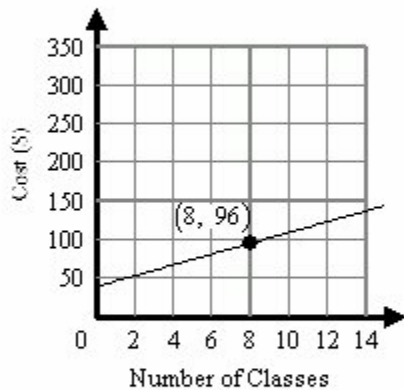
The point (10, 130) is on the graph. It shows that the cost of 10 classes is \$130.

ANSWER

Both options cost the same for 10 classes.

Guided Practice:

A sports club offers yoga classes. The total amount a customer spends on individual classes, C , is modeled by the function $C = \$14n$. In the function, n is the total number of classes taken. The local community center also offers yoga classes. There is a one-time membership fee of \$40 at the community center. Members also pay for each class taken. The total cost of yoga classes at the community center is modeled by the graph.

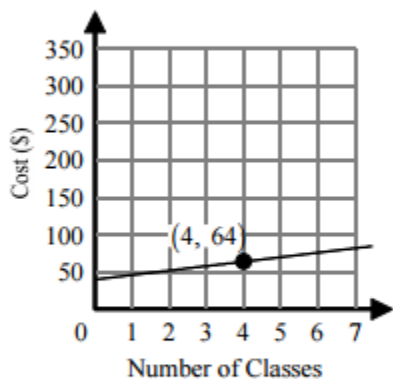


Which payment option is less expensive if 8 classes total are taken?

- [A] It is less expensive to take 8 classes at the sports club.
- [B] It is less expensive to take 8 classes at the community center.
- [C] Both options cost the same for 8 classes.

Independent Practice:

A sports club offers aerobics classes. The total amount a customer spends on individual classes, C , is modeled by the function $C = \$16n$. In the function, n is the total number of classes taken. The local community center also offers aerobics classes. There is a one-time membership fee of \$40 at the community center. Members also pay for each class taken. The total cost of aerobics classes at the community center is modeled by the graph.



Which payment option is less expensive if 4 classes total are taken?

- [A] It is less expensive to take 4 classes at the sports club.
- [B] It is less expensive to take 4 classes at the community center.
- [C] Both options cost the same for 4 classes.